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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/590,193

06/21/2007

Jurgen Gaydoul

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EXAMINER

KOEHLER, CHRISTOPHER M

ART UNIT

PAPER NUMBER

3726

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/590,193	<b>Applicant(s)</b> GAYDOUL, JURGEN	
	<b>Examiner</b> Christopher M. Koehler	<b>Art Unit</b> 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/16/09</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 5, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Gaydoul (US Patent No. 5,502,881).

#### *Claim 1:*

Gaydoul teaches an apparatus for descaling hot rolled stock (7, figure 3, abstract), being moved (F) with respect to the apparatus (8), by spraying it with high pressure water (abstract), comprising at least one row of nozzle heads (20) sweeping across the width of the rolled stock with a plurality of nozzle heads (figure 3), each nozzle head being motor-driven in rotation about an axis of rotation (A) (col. 4, lines 1-9) substantially perpendicular to the surface of the rolled stock (figure 3) and comprising at least two nozzles (21, figure 4) which are disposed eccentrically (figure 7) with respect to the axis of rotation (A), the nozzles of each nozzle head being arranged as closely as structurally possible to the circumference of the nozzle head (figure 7), whereby a spray pattern (figures 6 and 8) is created on the surface of the rolled stock in a way to touch or overlap (figure 8) the spray pattern of the adjacent nozzle head in the row of nozzle heads, and the nozzles being arranged in the nozzle head radially inclined outwardly at an angle of inclination (a) in the range of 0° 0~ 20° (figure 9, angle alpha, col. 3, lines

Art Unit: 3726

60-67), and inclined in circumferential direction (f,f) in the forward direction of the rotation of the nozzle head (see figure 4 where it is clearly illustrated that the nozzle is inclined so as to spray at an angle to the left of the axis of the nozzle head in the forward direction of rotation in addition to being angled radially outwardly and col. 5, lines 4 and 5).

Claim 2:

Gaydoul teaches that the angle of radial inclination (alpha) is in the range of 0 to 30 degrees (col. 3, lines 60-67) and in one specific embodiment is 15 degrees (col. 5, lines 63-67)

Claims 3 and 9:

Gaydoul teaches that the angle of inclination of the nozzles in circumferential direction lies in an angular range of 0 to 30 degrees and in at least one specific embodiment is 15 degrees (col. 5, lines 4 and 5).

Claims 5 and 10:

Gaydoul teaches that the jet opening angle of the jet exiting from the nozzles is 0 to 15 degrees (figure 5).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3726

4. Claims 6-13 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaydoul.

Claims 6, 7, 17 and 18:

Gaydoul teaches two embodiments having 4 and 2 nozzles mounted evenly distributed on the nozzle head (figures 4, 10 and 11) but does not explicitly teach that the nozzle head has 6 or 8 nozzles evenly distributed on the nozzle head. The disclosure implies that the number of nozzles is selected based on the characteristics of the material to be sprayed. At the time of the invention it would have been an obvious matter of design choice to one of ordinary skill, to have used 6 or 8 nozzles because applicant has not disclosed that the additional nozzles provide an advantage or solve a stated problem not met by 2 or 4 nozzles. One of ordinary skill in the art, furthermore, would have expected applicants invention to perform equally well with either the number of nozzles taught by Gaydoul or the claimed number of nozzles because both perform the same function of removing scale equally well. Therefore, it would have been an obvious matter of design choice to modify Gaydoul to obtain the invention specified in claims 6, 7, 17 and 18.

Claim 8:

Gaydoul teaches an apparatus for descaling hot rolled stock (7, figure 3, abstract), being moved (F) with respect to the apparatus (8), by spraying it with high pressure water (abstract), comprising at least one row of nozzle heads (20) sweeping across the width of the rolled stock with a plurality of nozzle heads (figure 3), each nozzle head being motor-driven in rotation about an axis of rotation (A) (col. 4, lines 1-9)

Art Unit: 3726

substantially perpendicular to the surface of the rolled stock (figure 3) and comprising at least two nozzles (21, figure 4) which are disposed eccentrically (figure 7) with respect to the axis of rotation (A), the nozzles of each nozzle head being arranged as closely as structurally possible to the circumference of the nozzle head (figure 7), whereby a spray pattern (figures 6 and 8) is created on the surface of the rolled stock in a way to touch or overlap (figure 8) the spray pattern of the adjacent nozzle head in the row of nozzle heads, and the nozzles being arranged in the nozzle head radially inclined outwardly at an angle of inclination ( $\alpha$ ) in the range of  $0^\circ$  to  $20^\circ$  (figure 9, angle alpha, col. 3, lines 60-67), and inclined in circumferential direction (f,f) of the rotation of the nozzle head (see figure 4 where it is clearly illustrated that the nozzle is inclined so as to spray at an angle to the left of the axis of the nozzle head in the forward direction of rotation in addition to being angled radially outwardly and col. 5, lines 4 and 5). Gaydoul does not explicitly teach that pairs or groups of nozzle heads are adapted to be switched off or on in correspondence with different widths of rolled stock.

Applicant Admitted Prior Art (AAPA) (see MPEP 2144.03) teaches that it is well known in the art of descaling apparatuses to descale varying widths of rolled stock and that in doing so nozzles are switched on or off depending on the width of the rolled stock being processed. It would have been obvious to one of ordinary skill in the art at the time of the invention to have switched on nozzles that are over the rolled stock and switch off nozzles that have no rolled stock between them for several reasons including the conservation of the descaling fluid and the prevention of undue wear on the nozzle

Art Unit: 3726

heads caused by opposing nozzle heads spraying high pressure fluid against each other with no rolled stock therebetween.

Claims 13 and 16:

See rejections of claims 9 and 10 above.

Claims 11, 12 and 15:

See rejections of claims 2, 3 and 5 above.

5. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaydoul in view of Hiroshi et al. (JP 11-216513).

Claims 4 and 14:

Gaydoul teaches the invention claimed but does not explicitly teach that adjacent nozzle heads in the row of nozzle heads are driven to rotate in opposite directions with respect to one another.

Hiroshi teaches steel descaling nozzle heads and nozzles wherein the nozzle heads (2) are placed adjacent to one another (figures a and b) and the row of nozzle heads are driven to rotate in opposite directions with respect to one another (figure b). It would have been obvious to one of ordinary skill in the art at the time of the invention to have applied the rotation teaching of Hiroshi to the apparatus of Gaydoul since the counter rotation of adjacent heads results in a more efficient and uniform descaling between the heads by preventing the interference of high pressure water between the heads (see Hiroshi "Problem to be Solved").

***Response to Arguments***

6. Applicant's arguments filed 10/16/2009 have been fully considered but they are not persuasive.

7. Applicant argues that *Gaydoul* fails to teach that the nozzles are inclined in the circumferential direction in the forward direction of the rotation of the nozzle head. The examiner respectfully disagrees with applicant's assertion. With particular reference to figure 4 and col. 5, lines 4-5, *Gaydoul* discloses a nozzle head arrangement (20) having a plurality of nozzles (21). Each of these nozzles as plainly shown in figure 4 is angled in at least two directions: first, in the radially outward direction (also shown in figure 9); and second, in the circumferential direction in the forward direction of the rotation of the nozzle head (figure 4, with particular attention drawn to the nozzle that is closest to the observer and the nozzle that is furthest from the observer). Figure 4 plainly shows in its depiction of the closest and furthest nozzles that they are angled in the circumferential direction (left for the closest and right for the furthest) at an angle approximately between 0 and 30 degrees and that they are angled forward with the direction of rotation (rotation arrows) and thus even if the examiner were to agree with the applicant that the disclosure at col. 5, lines 4-5 was not in reference to the circumferential angle, which the examiner does not, figure 4's depiction alone anticipates the structure claimed.

8. With regard to the rejections under 35 USC section 103, applicant argues that the inclination of the nozzles in the circumferential and forward direction is not obvious in view of *Gaydoul*. The examiner notes that the previous office action, as with the



current office action, do not assert that the inclination of the nozzles is obvious rather anticipated by *Gaydoul* therefore the arguments of non-obviousness are moot in view of the response to the anticipation arguments above. The examiner further notes that obviousness was relied upon for the proposition that it would have been obvious to provide different numbers of nozzles on the nozzle heads and the switching on and off of nozzle heads in response to the width of the rolled stock, neither of which is discussed in applicant's remarks. Lastly, applicants' failure to traverse the official notice taken with respect to claim 8 has been taken as an acquiescence that the subject matter is applicant admitted prior art (see MPEP 2144.03(C)).

9. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

Art Unit: 3726

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Koehler whose telephone number is (571)272-3560. The examiner can normally be reached on Mon.-Fri. 7:30A-4:00P.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jermie E Cozart/  
Primary Examiner, Art Unit 3726

/C. M. K./  
Examiner, Art Unit 3726